

Comments of Peter Stutman of Sudbury, MA re 04-37

Recent FCC comments in 03-104 and 04-37 deal with the implementation, proliferation, and measurement of so-called “access BPL” technology. Adoption of this technology may result in hundreds of millions or more small RF emitters, operating in the frequency range of 2-80 MHz at power levels permitted under Part 15 of the Commission’s rules. In order to operate, these RF emitters must be coupled directly to residential or commercial power lines and then in turn to the national power grid to a greater or lesser degree.

The fact that a huge number of unlicensed RF emitters will be deployed by consumers with little or no technical training nor regulation will lead, I believe, to many continuing situations in which licensed and desirable services operating in the same frequency bands suffer interference which hinders or nullifies their utility. The consumers of these devices, as well as the manufacturers have, as yet demonstrated little or no ability to measure nor predict the resultant EMI/RFI spectrum or EIRP resulting from BPL.

There are at least areas of great concern with respect to BPL deployment and interference mitigation. They are:

1. The fact that the deployment of large numbers of BPL devices results in pollution of the involved radio spectrum on a global basis.
2. The spectrum chosen for BPL directly overlies and interferes with virtually every long-distance RF communication technology with the exception of that used for satcomm.
3. The fact that local measurements may not give an accurate picture of EMI/RFI experienced hundreds or thousands of miles away, nor give useful information with respect to mitigating this interference.
4. The fact that even if a public database of deployed BPL equipment exists, it is unlikely that it will be accurate after several years of operation. Does the Commission see itself holding disciplinary hearings and levying fines on BPL users who move to another house or town and neglect to update the data base?

The writer of this document is a trained engineer who over the last 25 years, has deployed a wide variety of RF based telemetry, information and so-called “wireless internet” systems using both licensed and unlicensed spectrum. In addition, the writer has been a licensed ham radio operator for over 36 years, holds US patents in the radio field and has extensive real-world field experience.

A primary concern, is that in the rush to implement BPL technology, there are very few studies in very few environments. Given the huge potential for EMI/RFI, one would think that a multi-year trial in several communities possessing different physical environments and geographies, would begin to develop a true understanding of the interference potential of access BPL. Why can’t the Commission allow several BL systems to operate for 24 months in

representative areas; for sake of discussion, Northern Vermont, Western Arizona, Central Wyoming, and maybe Central Washington or Oregon, and conduct true and useful field measurements.

Another concern is that the measurements proposed, may not give a true picture of the various energies dumped into the environment by BPL. Specifically, it is extremely difficult at best to predict the antenna behavior of the wiring in a building or of a power line. Consequently there is great potential for pollution of the involved radio spectrum on a global basis. Advocates of BPL comment that each device is low-powered and therefore only radiates signals which are in the noise floor. That is perhaps true for a single device, but certainly not true for a system in a small town or city which might easily contain many thousands of RF emitters. When the energies of all devices are summed in a given geography the potential for EMI/RFI is much greater.

It is also important to understand that RF pollution from BPL might easily interfere not only with a ham radio operator or law enforcement officer across town, but with the parents of an African child in need of vital medicine, an Australian student, or a member of the American military, who, while thousands of miles distant from the BPL device, might still experience RFI which would render their attempts at communication useless. At this juncture in our history we are better served by letting the billions of people in repressive countries; people with no internet; hear the truth about the USA and the world via shortwave broadcast. Why destroy this with BPL interference?

Another relevant question concerns the 2-80 MHz spectrum. How was this arrived at? Why not reduce BPL available spectrum to say 45-80 MHz for initial testing? Why is it necessary to place BPL right in the middle of the spectrum which is most likely to interfere with RF based services on a global basis?

It is the writer's hope that the Commission will pay more attention to the very real possibilities of uncontrollable interference from BPL and will study all aspects of this technology including its sociology.

Sincerely,

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